Lehrstuhl für BWL insb. Logistikmanagement
Johannes Gutenberg-Universität Mainz
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Topics Master Seminar

- **Operations Research/Management Science**:

  Thema 1 (*Bin packing and cutting stock problems: Mathematical models and exact algorithms*)
  Delorme *et al.* (2016)

  Thema 2 (*The Fixed Charge Transportation Problem: An Exact Algorithm Based on a New Integer Programming Formulation*)
  Roberti *et al.* (2015)

  Thema 3 (*The Three-Dimensional Bin Packing Problem*)
  Martello *et al.* (2000)

  Thema 4 (*The 0-1 Knapsack Problem*)
  Pisinger and Toth (1998)

  Thema 5 (*A branch and bound algorithm for cutting and packing irregularly shaped pieces*)
  Alvarez-Valdes *et al.* (2013)

  Thema 6 (*Maximum-weight stable sets and safe lower bounds for graph coloring*)
  Held *et al.* (2012)

  Thema 7 (*A Branch-and-Repair Method for Three-Dimensional Bin Selection and Packing in E-Commerce*)
  Fontaine and Minner (2023)

  Thema 8 (*Scattered storage assignment: mathematical model and valid inequalities to optimize the intra-order item distances*)
  Albán *et al.* (2023)

  Thema 9 (*Variable Neighborhood Search for the Set Orienteering Problem and its application to other Orienteering Problem variants*)
  Pêniĉka *et al.* (2019)

  Thema 10 (*Timetable synchronization of the last several trains at night in an urban rail transit network*)
  Zhang *et al.* (2024)

  Thema 11 (*Solving matching problems with linear programming*)
  Grötschel and Holland (1985)

- **Transportation**:

Thema 12 (*An adaptive large neighborhood search approach for multiple traveling repairman problem with profits*)
Avci and Avci (2019)

Thema 13 (*A Branch-and-Price-and-Cut Algorithm for the Vehicle Routing Problem with Two-Dimensional Loading Constraints*)
Zhang *et al.* (2022)

Thema 14 (*A Compact Arc-Based ILP Formulation for the Pickup and Delivery Problem with Divisible Pickups and Deliveries*)
Jargalsaikhan *et al.* (2021)

Thema 15 (*A Branch and Price Algorithm for the Heterogeneous Fleet Multi-Depot Multi-Trip Vehicle Routing Problem with Time Windows*)
Şahin and Yaman (2022)

Thema 16 (*An exact algorithm for the vehicle routing problem based on the set partitioning formulation with additional cuts*)
Baldacci *et al.* (2008)

Thema 17 (*A Branch-and-Cut Algorithm for the Symmetric Generalized Traveling Salesman Problem*)
Fischetti *et al.* (1997)

Thema 18 (*A New Exact Algorithm for Single-Commodity Vehicle Routing with Split Pickups and Deliveries*)
Li *et al.* (2023)

Thema 19 (*Branch-Cut-and-Price for the Time-Dependent Green Vehicle Routing Problem with Time Windows*)
Liu *et al.* (2023)

Thema 20 (*An exact Price-Cut-and-Enumerate Method for the Capacitated Multitrip Vehicle Routing Problem with Time Windows*)
Yang (2023)

Thema 21 (*A Branch-Cut-and-Price Approach for the Single-Trip and Multi-Trip Two-Echelon Vehicle Routing Problem with Time Windows*)
Marques *et al.* (2022)

Thema 22 (*Nested column generation for split pickup vehicle routing problem with time windows and time-dependent demand*)
Wu *et al.* (2024)

- **Location Planning**:

  Thema 23 (*Median and Covering Location Problems with Interconnected Facilities*)
  Cherkesly *et al.* (2019)

  Thema 24 (*Revisiting the Hamiltonian p-median problem: A new formulation on directed graphs and a branch-and-cut algorithm*)
  Bektaş *et al.* (2019)

  Thema 25 (*Compact MILP formulations for the p-center problem*)
  Ales and Sourour (2018)

  Thema 26 (*Benders decomposition for the discrete ordered median problem*)
  Ljubić *et al.* (2024)

Literature

Albán, H. M. G., Cornelissens, T., and Sörensen, K. (2023). Scattered storage assignment: Mathematical model and valid inequalities to optimize the intra-order item distances. *Computers & Operations Research*, **149**, 106022.

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